<Clinical Studies>Two Case of Recurrent Pulmonary Metastasis Resected after Operation for Gastric Cancer

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Two Cases of Recurrent Pulmonary Metastasis Resected after Operation for Gastric Cancer

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Abstract

It is said that the prognosis is poor in cases with recurrent pulmonary metastasis after operation for gastric cancer. In this article, 2 cases with nodular type of pulmonary metastasis resected after operation for gastric cancer and surviving well are reported by the authors.

Case 1: 57-year-old female. The patient underwent a total gastrectomy for the 3′ type of cardiac cancer. As the serum levels of tumor markers increased and the chest X-ray examination revealed a mass lesion in the right lung (S_{10}), the operation for the lesion under the diagnosis of metastatic lung cancer was performed 1 year and 2 months after gastrectomy. The patient died of pulmonal and pleural metastasis 4 years and 7 months after the first operation. Case 2: 65-year-old male. The patient underwent a subtotal gastrectomy for the 5′ type of gastric cancer. Chest X-ray examination for follow-up study revealed a mass lesion in the left lung (S_5). The patient underwent a left pulmonary superior lobe resection 2 years and 9 months after gastrectomy. The patient is still alive 6 years after the first operation.

Surgical treatment must be actively considered for nodular type of metastatic lung cancer after operation for gastric cancer.

Introduction

It is said that the prognosis is poor in cases with pulmonary metastasis after operation for gastric cancer[1] However, there were some reports in which although there were few cases with nodular type of pulmonary metastasis after operation for gastric cancer, the prognosis of the cases was good by resecting the metastatic lesion[2-4]. In this article, 2 cases with nodular type of pulmonary metastasis resected after operation for gastric cancer and surviving well are reported by the authors.

The clinicopathological matters in this article were followed according to "The General Rules

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Key words: Gastric cancer, Recurrence, Nodular type of pulmonary metastasis, Tumor markers

for the Gastric Cancer Study" (The 12th Edition)[5] and "General Rules for Clinical and Pathological Record of Lung Cancer" (The 3rd edition)[6].

Case report

Case 1: 57-year-old female

Clinical course: On December 17, 1987, the patient had a left thoraco-laparotomic total gastrectomy for the $3'T_2$ type of gastric cancer in the cardia [P_0, H_0, T_3 (SE), N_1, M_0, Stage IIIa, D_2, Curability B]. The histopathological diagnosis of the resected material was well differentiated tubular adenocarcinoma (tubl) (Fig. 2–A), ss infβ, ly_2, v_3, $n_1(+)$, ow(−) and aw(−). Postoperative immunochemotherapy (UFT 400 mg/day/per os., OK-432 2KE/2w/intracutaneous) was performed. On October 26, 1988, chest X-ray and chest CT films taken due to the increasing of tumor markers (CEA 26.5 ng/ml, CA19–9 83 U/ml) revealed a mass lesion (Fig. 1–A, B). Recurrent pulmonary metastasis of gastric cancer (S_{10}) was diagnosed. As no metastatic lesions in other organs were diagnosed and the general condition of the patient was good, an operation for metastatic lung cancer was performed on February 20, 1989 (one year and 2 months after gastrectomy). Tumors of 5 mm in diameter were newly found at S_1 and S_4 perioperatively, and S_1, S_4 and S_{10} of the right lung were partially resected. As the histological diagnosis of resected materials were differentiated type of adenocarcinoma (Fig. 2–B), recurrent pulmonary metastasis from gastric cancer was diagnosed. The serum levels of tumor markers decreased to a normal range after operation. On March 14, 1990, metastasis to the left lung was found and the serum levels of tumor markers increased again (CEA 28.4 ng/ml, CA19–9 425 U/ml) in spite of continuing immunochemotherapy. The patient died of left pulmonal and pleural metastasis on August 1, 1992 (4 years and 7 months after the operation for gastric cancer and 3 years and 5 months after the resection of pulmonary matastasis).

Case 2: 65-year-old male

Clinical course: On July 27, 1989, the patient underwent a subtotal gastrectomy for the $0'$ (IIc+III)T_2 type gastric cancer in the anterior wall of the gastric body [P_0, H_0, T_2 (MP), N_0, M_0, Stage Ib, D_2, Curability A]. The histopathological findings of the resected material were well differentiated tubular adenocarcinoma (tubl) (Fig. 4–A), mp, infβ, ly_1, v_0, n(−), ow(−) and aw(−). Postoperative immunochemotherapy (5-Fu 150 mg/day/P.O, OK-432 2KE/2w/I.S.) was performed. On December 4, 1991, chest X-ray and chest CT examinations for follow-up study revealed a mass lesion in the left lung (S_5) (Fig. 3–A, B). The patient was diagnosed as having primary metachronous lung cancer and underwent an upper left pulmonary lobectomy on April 14, 1992. As the histopathological diagnosis of the resected material was differentiated type of adenocarcinoma (Fig. 4–B) similar to that of the primary lesion, a diagnosis of recurrent pulmonary metastasis (S_5) of gastric cancer was made. As of July 26, 1995, the patient is in good health and attending our hospital as an outpatient (survives 6 years after the operation for gastric cancer and 3 years and 3 months after the resection of pulmonary metastasis). There was no change in serum levels of tumor markers in the clinical course.

Discussion

The incidence of cases with pulmonary metastasis from gastric cancer in autopsied cases was 46.9% by MAEHARA et al.[7], 32.8% by ABRAMS et al.[8] and 33% by YAMAGUCHI[9]. The incidence of

that in clinical cases was 14% by UMEHARA et al.[1], lower than autopsied cases. UMEHARA et al. also pointed out that recurrent pulmonary metastasis from gastric cancer occurred highly in the terminal stage and reported that the incidence of pulmonary metastasis as the first recurrent form of gastric cancer was only 6% and a major part of the cases with pulmonary metastasis had liver metastasis,

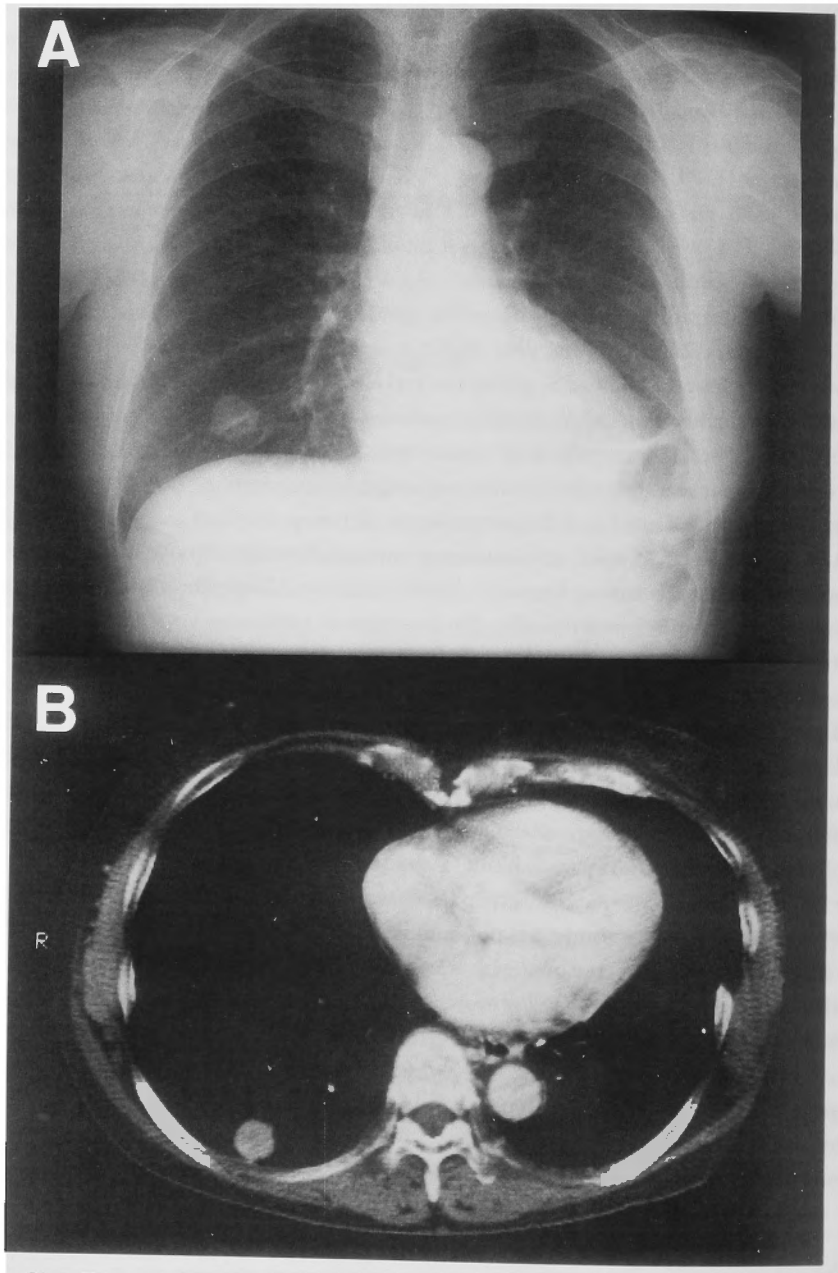

Fig. 1-A, B Chest X-ray and chest CT examination in case 1. In the right lower pulmonary field (S_{10}), a shadow of a nodular tumor 2 cm in diameter was observed.

peritoneal metastasis or local recurrence precedingly. YAMAGUCHI[9] documented that the incidence of cases with pulmonary metastasis from gastric cancer in autopsied cases, which had no metastatic disease elsewhere in the body, was only 0.7%.

It was considered in general that the prognosis of the cases with recurrent pulmonary metastasis

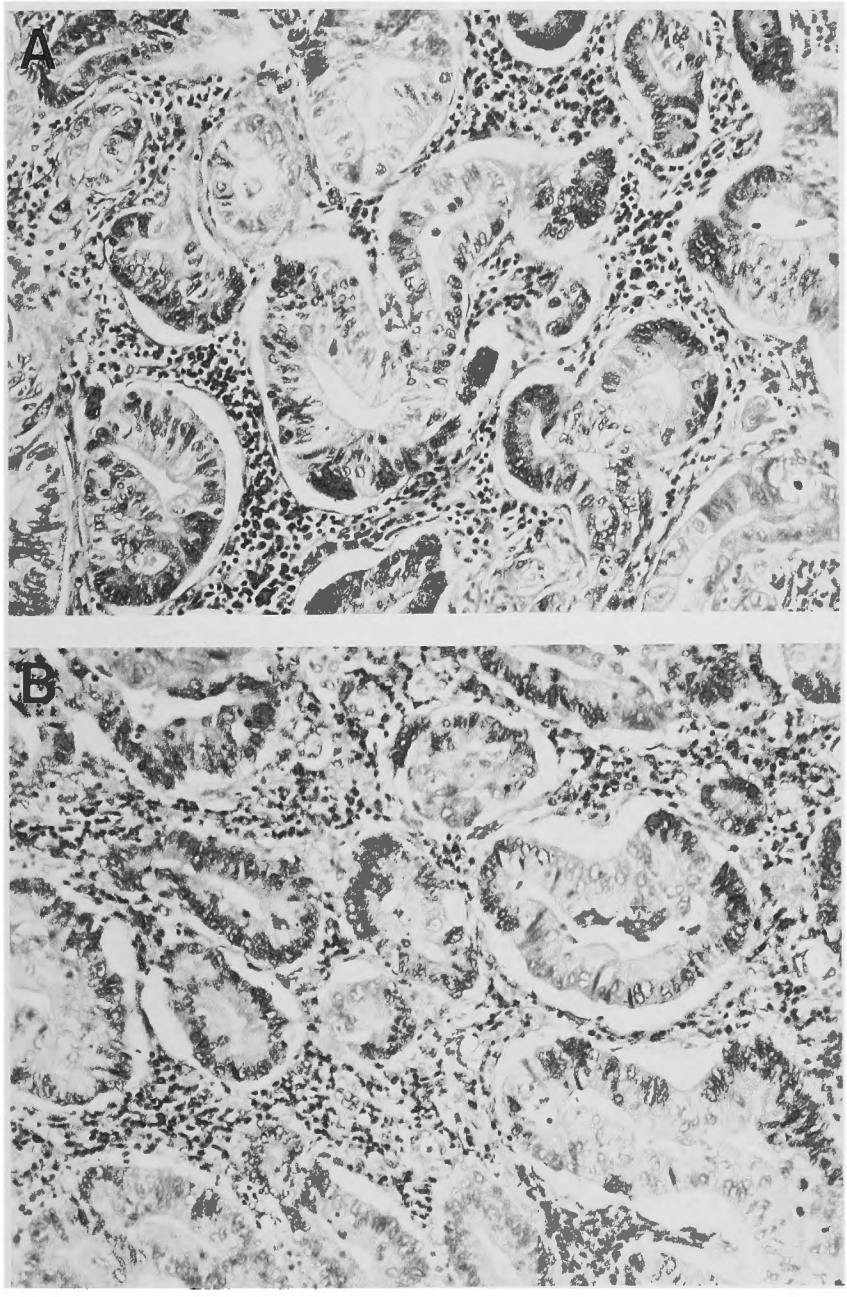

Fig. 2 Histological findings of primary lesion of gastric cancer (A) and histological findings of pulmonary metastasis (B) of case 1.

from gastric cancer was poor and that the operation for them was not suitable. In recent years though, there were some good reports of resected cases of recurrent pulmonary metastasis from gastric cancer[2-4].

THOMFORD et al.[10] documented that the 5 year survival rate of the resected cases for metastatic

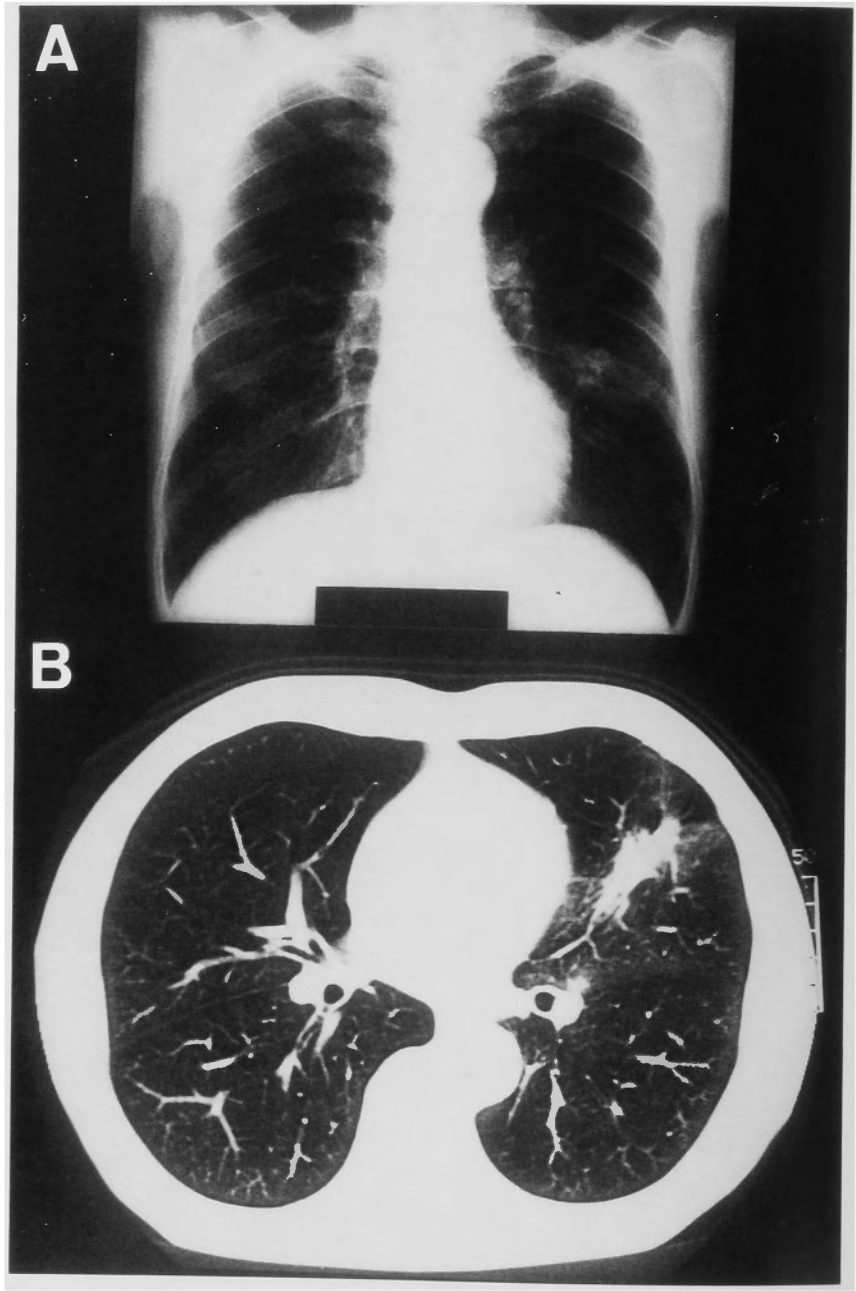

Fig. 3-A, B Chest X-ray and chest CT examination in case 2. In the left lower pulmonary field (S_5), a shadow of a nodlar tumor 3 cm in diameter was observed.

lung tumors, irrespective of the origins, was 30.3%, similar to results of the resection for primary lung cancer cases. THOMFORD et al. advocated that the criteria in selecting patients for the surgical removal of metastatic tumors in the lung were: 1) the patient must be a good risk for surgical intervention, 2) the primary malignancy is controlled, 3) there is no evidence of metastatic disease elsewhere

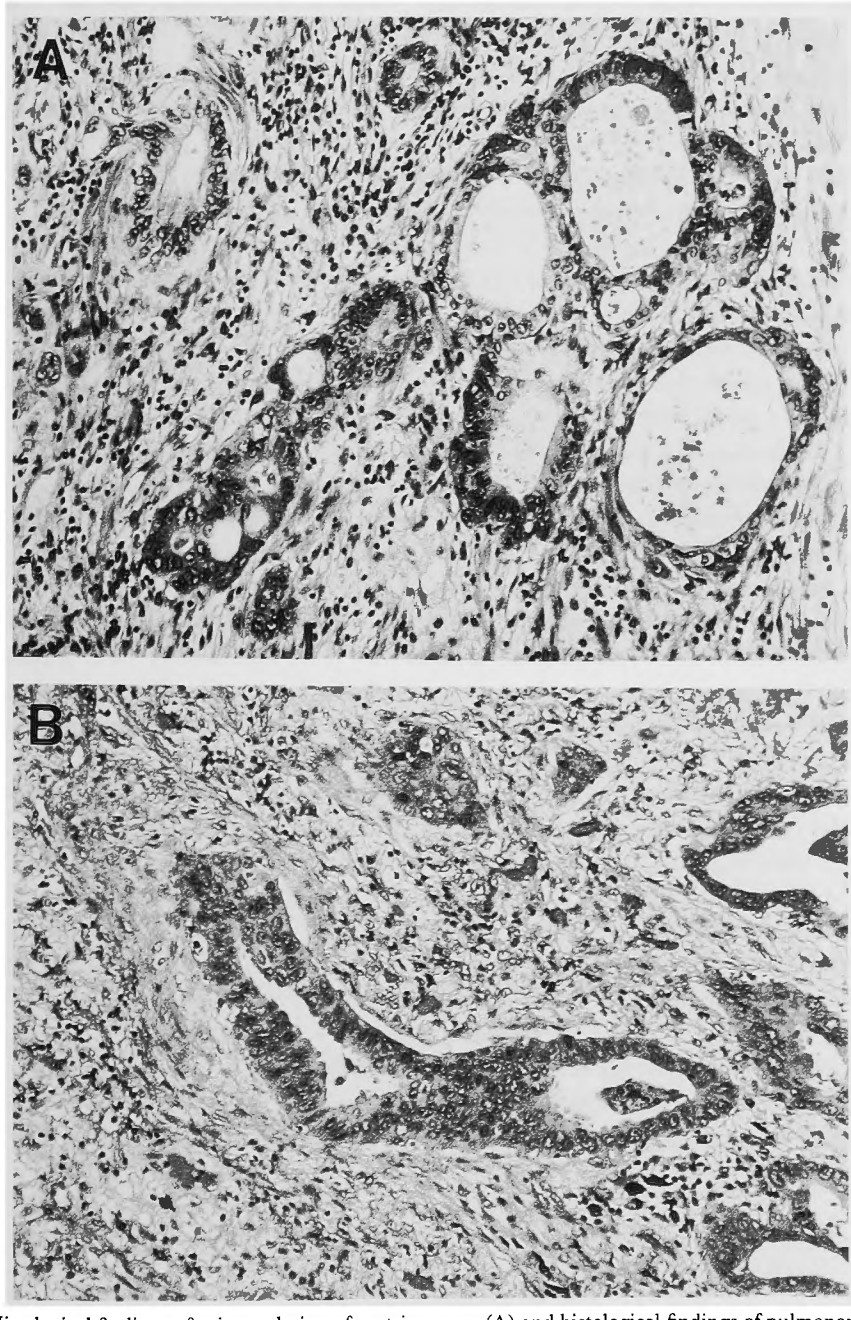

Fig. 4 Histological findings of primary lesion of gastric cancer (A) and histological findings of pulmonary metastasis (B) of case 2.

in the body, and 4) roentgenologic evidence of pulmonary metastasis is limited to one lung.

In the cases with pulmonary metastasis from gastric cancer, the solitary nodular metastasis is considered the best indication for the operation[11], and the major part of the reported cases were also solitary nodular metastasis[2-4]. UMEHARA et al.[1] examined the cases with pulmonary metastasis from gastric cancer classified into lymphopathy, nodular and pleural effusion types, roentogenologically. In the report, UMEHARA et al. documented that concerning the prognosis, the average survival periods from the day of resection of gastric cancer to the day of death in the nodular type was better than that of other types, especially that from the day of diagnosis of recurrent pulmonary metastasis to the day of death in the nodular type was predominantly better than that of other types. The incidence of nodular type of pulmonary metastasis from gastric cancer was comparatively high, 18.8% by UMEHARA et al., however, the incidence of solitary nodular type of metastasis was only 9%. Two cases that the authors experienced were also the nodular type of metastasis. But, although one was diagnosed as solitary metastasis before the operation, 2 metastatic lesions were newly found perioperatively.

These facts indicated that, though the incidence of the cases with the solitary lesion was low, the efforts to discover the solitary metastatic lesion as early as possible and the efforts to perform the operation as early as possible were necessary.

As to the chance of diagnosis of recurrent metastatic lesions, some cases were diagnosed by the increase in the serum levels of tumor markers (CEA, etc.) or by the discovery of the mass on chest X-ray films without symptoms[2,4]. Also one of the cases the authors experienced was diagnosed by the increase in the serum levels of CEA and CA19-9 and another was diagnosed by the mass on chest X-ray examination for follow-up study, although there were no symptoms.

What kind of gastric cancer caused the nodular type of pulmonary metastasis? As to the histological features of the primary lesions, many of them were the differentiated type or papillary adenocarcinoma with lymphatic permiation[1-4]. Two cases experienced by the authors underwent curative resection and were well differentiated tubular adenocarcinoma with lymphatic permiation, histopathologically (one was tub1, ly_2 and v_3, the other tub1, ly_1 and v_0).

It is said that the interval from gastrectomy to the discovery of recurrent pulmonary metastasis in the nodular type is 3 years or shorter[1-4]. Two patients who underwent an operation 1 year and 2 months and 2 years and 9 months, respectively, after the gastrectomy, had no metastatic disease elsewhere in the body and were judged a good risk for surgical intervention.

There must be cases with nodular type pulmonary metastasis, though the incidence is low, after operation for gastric cancer, especially in the cases with differentiated type of adenocarcinoma having lymphatic permiation. For the cases, where the conditions were sufficient for the criteria advocated by THOMFORD et al.[10], a treatment plan must be decided including active surgical treatment. Also, in order to discover the cases suitable for surgical treatment, it seems necessary for the patient after operation for gastric cancer, although the symptom was absent, to be followed up closely including chest X-ray examination and serum levels of tumor markers immediately after gastrectomy for at least 3 years.

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和文抄録

胃癌術後に肺転移巣を切除した2例

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胃癌術後に肺転移をきたした症例の予後は不良とされている．今回，胃切除術後に結節型肺転移巣を切除し，良好な結果を得た胃癌の2例を経験したので報告する．

症例1は57歳，女性．噴門部 2' 型胃癌の診断のもと，胃全摘術を受けている．腫瘍マーカーの上昇があり，胸部X線写真で右肺 S_{10} に腫瘤陰影を認めた．胃癌術後1年2カ月目に肺部分切除術を施行した．患者は胃癌切除後4年7カ月で肺転移および癌性胸膜炎のため死亡した．

症例2は65歳，男性．胃体部 5' 型胃癌の診断のもと，胃亜全摘を受けている．術後経過観察中，胸部X線写真で左肺 S_5 に腫瘤陰影を認め，胃癌術後2年9カ月目に左肺上葉切除切除術を施行した．患者は胃癌切除術後6年で健在である．

結節型の肺転移例に対しては積極的な外科手術を考慮すべきである．